Which strategies to osteopaths in the prevention of sedentary lifestyle?

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Outline

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I] Introduction : Sedentary lifestyle in Europe

- European average of daily sedentary lifestyle : 7h26
- 72% of Europeans underestimate the health risks caused by a sedentary lifestyle (Attitude et Prevention, 2018)

Definitions

insufficient level of moderate to high intensity physical activity :
< 30 min moderate physical activity /day
(Sedentary Behaviour Research Network 2012)

PHYSICAL INACTIVITY

SEDENTARY LIFESTYLE

an awakening situation characterized by low energy expenditure (< than 1.6 MET) in a sitting or lying position (Tremblay, 2012)

You can be physically active and have sedentary lifestyle in the same time!

Sedentary lifestyle : a health risk factor

Cardiovascular diseases

Overweight, obesity

Diabetes

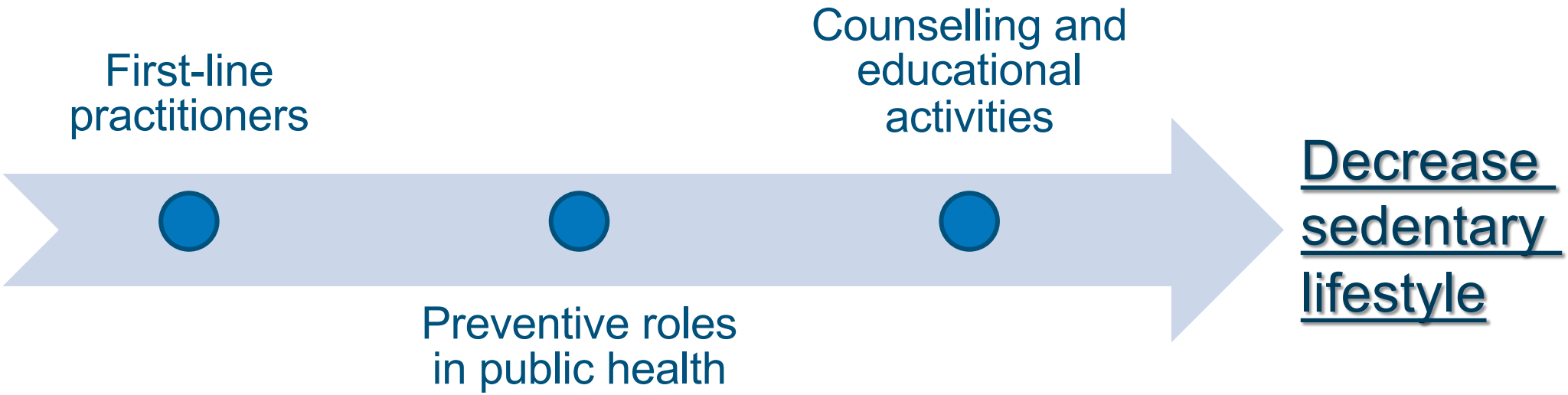
Cancers : breast, endometrium, colon

Osteoporotic fractures

Osteoarthritis

Alzheimer's disease, Parkinson's disease (ANSES, 2016)

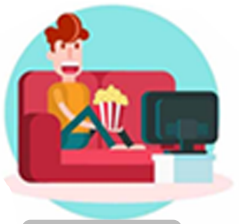
How can ostepaths act?



II] Problematic and objectives

What strategies have been identified in the literature to combat sedentary lifestyle ?

Negative health impacts



at home

leisure time

transports

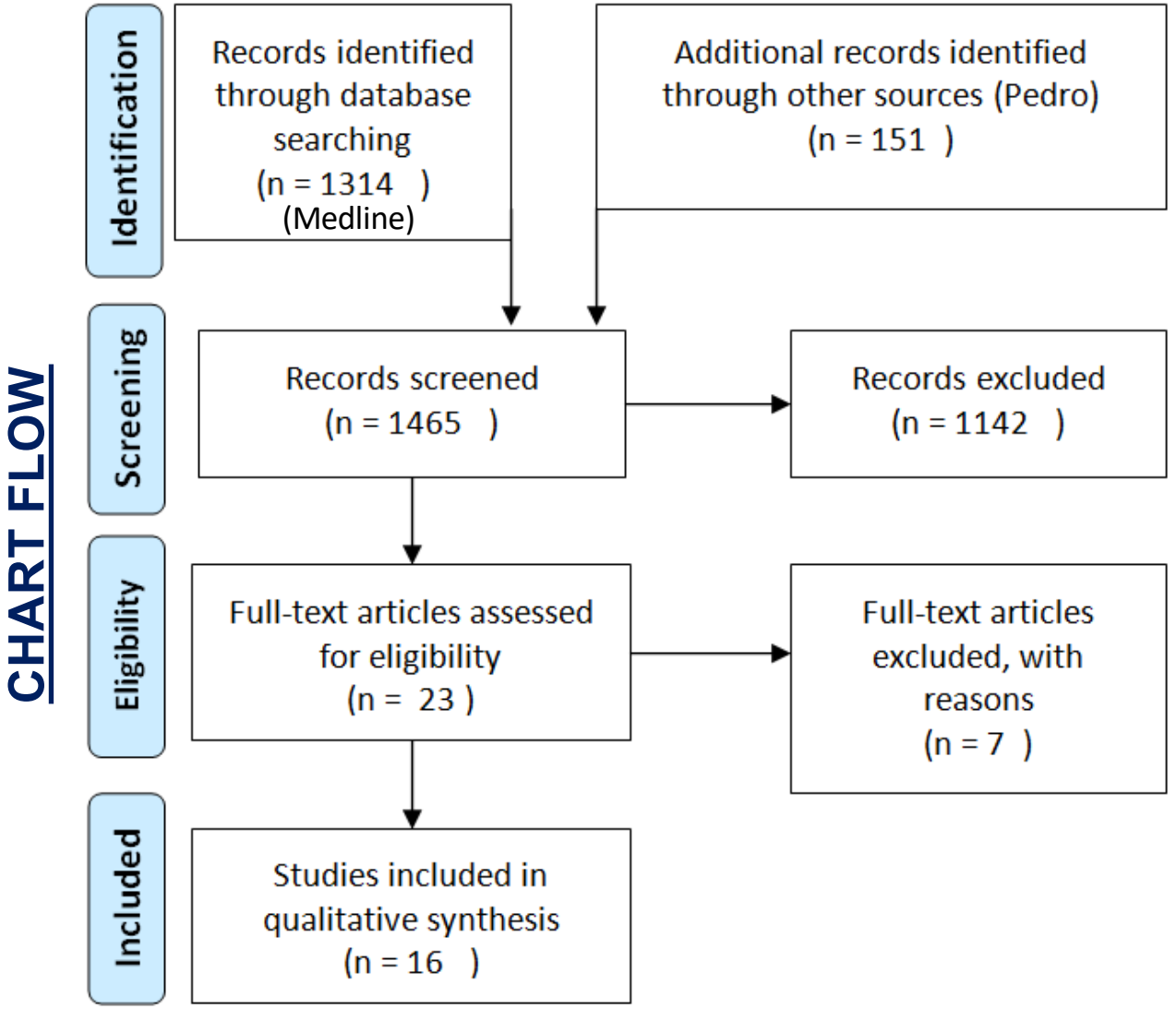
at work

- Evaluation tools
- Recommendations
- Take home messages

III] Material and Methods

Scoping review

(HAS, 2000)



Inclusion criteria

Publication less than ten years old
English publication on Medline and Pedro
Publication in full access
Publication concerning human beings
Publication referring to physical inactivity, or inactivity and physical activity
Study protocol, randomized controlled trials, pilot studies

IV] Results

14 randomized control trials

1 pilot study

1 study protocol

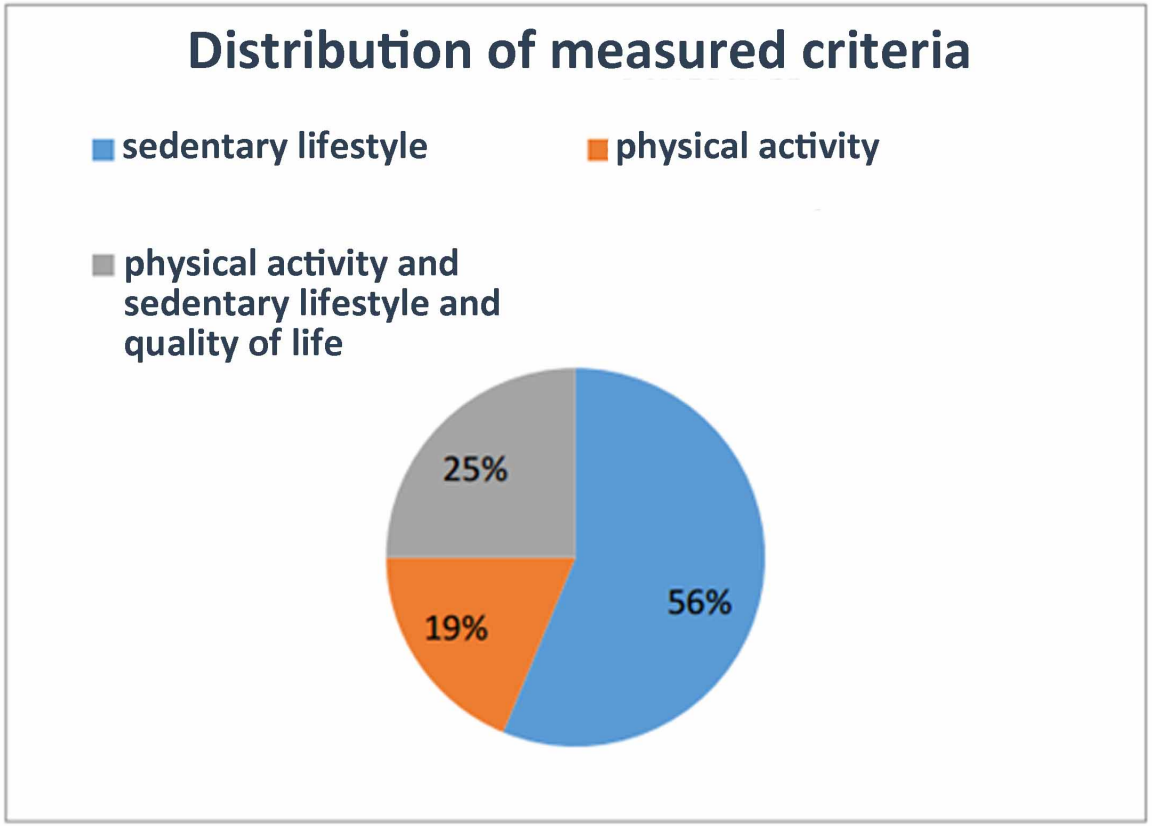
Author (date)	Country	Journal	Type of study
Healy (2016)	Australia	Medicine & Science in Sports & Exercise	randomized control trial
Cui (2012)	China	BMJ open	pilot study
King (2016)	United States	Public Library of Science	randomized control trial
Graves (2015)	United Kingdom	BMC public health	randomized control trial
Taylor (2016)	United States	Preventing Chronic Disease	randomized control trial
Hadgraft (mai 2017)	Australia	The International Journal of Behavioral Nutrition and Physical Activity	randomized control trial
Hadgraft (march 2017)	Australia	The International Journal of Behavioral Nutrition and Physical Activity	randomized control trial
Aadahl (2014)	Danmark	American Journal of Preventive Medicine	randomized control trial
Parry (2013)	Australia	Public Library of Science	randomized control trial
Puig (2015)	Spain	Public Library of Science	randomized control trial
Barwais (2013)	Australia	Health and Quality of Life Outcomes	randomized control trial
Dunstan (2013)	Australia	BMC public health	study protocol
Müller (2016)	Malaysia	Journal of medical internet research	randomized control trial
Baker (2008)	United Kingdom	The International Journal of Behavioral Nutrition and Physical Activity	randomized control trial
Kerr (2016)	United States	Public Library of Science	randomized control trial
Dutta (2014)	United States	International Journal of Environmental Research and Public Health	randomized control trial

Mesures of interventions

Primary measure: sedentary lifestyle

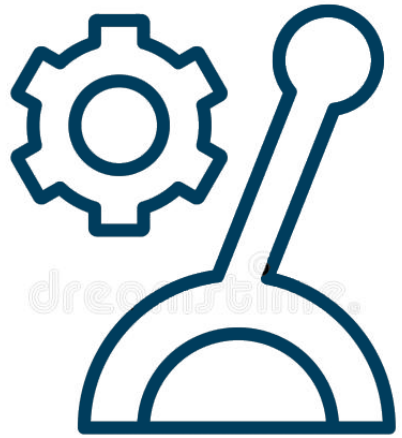
Questionnaires : IPAQ, OSPAQ
Digital tools : inclinometer/ accelerometer, smartphone application

Secondary measures : physical activity, waist circumference, blood pressure, weight, quality of life

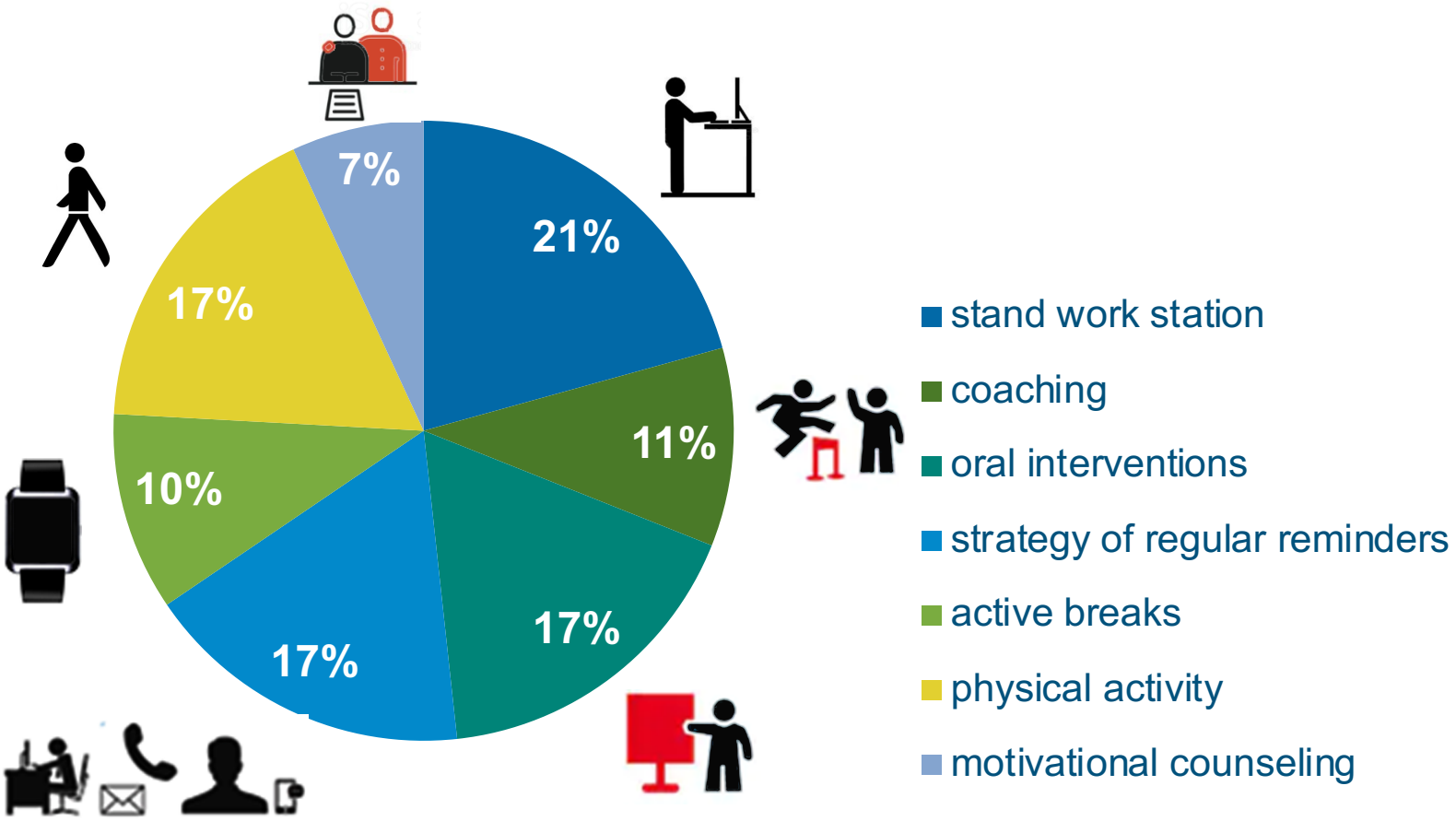


Levers of interventions

- directly reducing the time allocated to a sedentary lifestyle
- splitting long periods of sedentary lifestyle (“active breaks”)
- increasing physical activity to reduce sedentary lifestyle



Types of intervention



Significant results of interventions :

Significant reduction in sedentary lifestyle : short and long term, on week days and weekend days

Reduction of : insulin resistance, waist circumference, triglycerides

Increase of : physical activity, well-being

V] Discussion Methodological biases : limits of findings

Measurement bias

Interpretation bias

Selection bias

Heterogeneity of interventions

Low long-term effectiveness

Patient informational material vs health literacy

Different types of sedentary lifestyles : representativeness bias ?

Tools compatible with OM

Questionnaires :

OSPAQ (Chau et al, 2012)

SIT-Q (Lynch et AL, 2014)

Activity traker

Supplementary Digital Content 1

Appendix. Occupational Sitting and Physical Activity Questionnaire (OSPAQ)

1. How many hours did you work in the last 7 days? _____ hours
2. During the last 7 days, how many days were you at work? _____ days

Example:

Jane is an administrative officer. Her work day involves working on the computer at her desk answering the phone, filing documents, photocopying, and some walking around the office. Jane would describe a typical work day in the last 7 days like this:

Sitting (including driving)	90 %
Standing	5 %
Walking	5 %
Heavy labour or physically demanding tasks	0 %
Total	100 %

3. How would you describe your typical work day in the last 7 days? (This involves only your work day, and does not include travel to and from work, or what you did in your leisure time)

a. Sitting (including driving)	_____ %
b. Standing	_____ %
c. Walking	_____ %
d. Heavy labour or physically demanding tasks	_____ %
Total	_____ %

Make sure this adds up to 100%

Scoring:

Minutes sitting at work per week = Item 1 * Item 3a
Minutes sitting per workday = (Item 1/Item 2) * Item 3a
Similar calculations can be done for standing, walking, and heavy labour.

Implementing patient-centered approaches

Adapt the information to the patient medical history and environment

Use material adapted to patient’s health literacy (WHO, 2013)

Set objectives, negociated with the patient, use tools to check the progress (Baker & al, 2008)

Check the patient's understanding (Margat & al, 2017)

Educative approaches (Quesnay & Gagnayre, 2015)

Take home messages

Active transportation : cycling, walking (ONAPS, 2016)

Break up periods of sedentary behavior every 30 minutes (Puig & al, 2015)

Move at work : active breaks, incentives to move around the company (Taylor & al, 2016)

Get up as soon as you feel uncomfortable or tired (shoulders, neck…),

Meetings/ standing calls, collective challenges (Parry & al, 2013)

Sitting all day? Take the time to walk at least every 2 hours (Sante publique france, 2019)

VI] Conclusion

Sedentary lifestyle and physical inactivity are two different but cumulative risk factors for chronic diseases

No consensus => establish a global strategy : identify the patient's environment, measure sedentary lifestyle, propose personalized solutions, follow the evolutions

Therapeutic education of the patient and self-care approach

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Thank you for your attention